

Space News Roundup

Vol. 23 No. 19

October 19, 1984

National Aeronautics and Space Administration

News Briefs

51-A launch date set

NASA is aiming for a November 7 launch date for the next Shuttle mission, STS 51-A. Launch is set for 7:17 a.m. CST, with a Kennedy Space Center landing planned for Nov. 15 at approximately 7:02 a.m. CST. The current flight timeline calls for deploy of Telesat-H on Flight Day 2, deploy of Syncom IV-1 on Flight Day 3, retrieval of Palapa B-2 on Flight Day 5 and retrieval of Westar VI on Flight Day 7.

Indian PS to fly in '86

The Department of Space (DOS) for the government of India has accepted NASA's offer to fly an Indian payload specialist aboard the Shuttle when Insat-1C is launched in 1986. The payload specialist will be an engineer or scientist from the Indian Space Research Organization or from the Department of Space. Both NASA and the DOS will work together to identify joint experiments that the Indian payload specialist might perform aboard the Shuttle.

Uranus' rings photographed

Astronomers have for the first time clearly photographed the rings of Uranus, showing them to be made of particles which are darker than any other bodies in the Solar System. Photographing the rings is difficult because they are darker than charcoal and very close to the much brighter Uranus. Special computer processing was performed on the images in order to make the rings visible. Dr. Richard J. Terrile of the Jet Propulsion Laboratory and Dr. Bradford A. Smith of the University of Arizona used a special electronic camera system to record the images from the Las Campanas Observatory in Chile.

AO set for Nov. 1

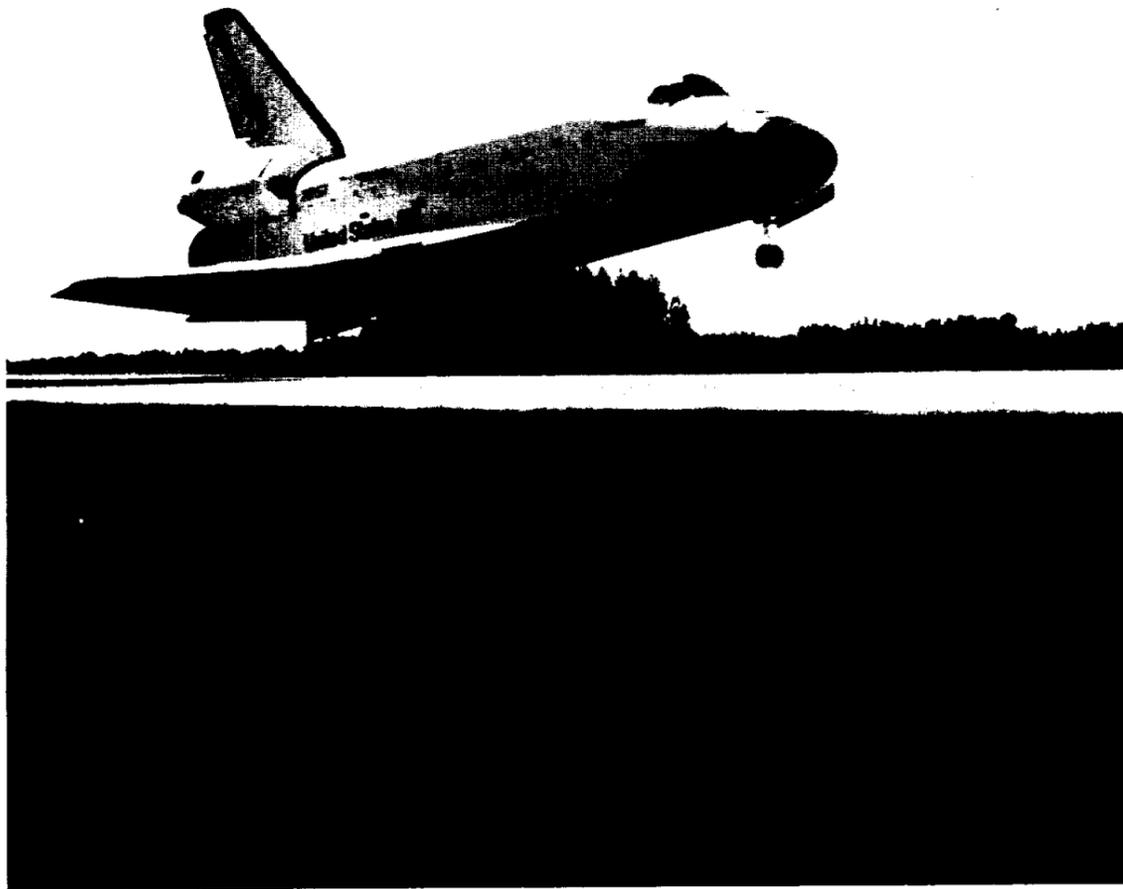
The crush of inquiries and the process needed to formalize procedures has delayed the release of an Announcement of Opportunity (AO) for the Space Flight Participant Program. That AO is now scheduled for release around the first of November. The announcement will specify necessary qualifications and explain the application process for the program. NASA is currently working with the Council of Chief State School Officers who will administer the search for the first Space Shuttle passenger, a teacher.

PC Organization to meet

BAPCO, the Bay Area PC Organization, will hold its next monthly meeting at 7:30 p.m. Nov. 20 at the Holiday Inn on NASA Road One. BAPCO, the local IBM-PC users' group, meets regularly on the third Tuesday of each month. For more information, call Earl Rubenstein at x3501 or Hattie Thurlow at x2213.

Travel Section has moved

The JSC Travel Section is no longer located on the first floor of Bldg. 1. The Section, which includes travel claims, travel accounting, verifiers and the Section chief, has been relocated to Bldg. 9, Rooms 135 and 139. The telephone numbers, x3041 and x2660, remain the same. The cashiers, office, travel funding area, passport office and the SATO office remain on the first floor of Bldg. 1. A designated mail box is provided at the travel funding desk, Room 122, for forwarding travel documents which in the past have been hand carried to the travel computation area.



Crip's first

The Orbiter *Challenger* settles down to a perfect landing at the Kennedy Space Center as STS 41-G concludes. For Commander Robert Crippen, the third try at KSC was the lucky one. Twice before, on STS-7 and 41-C, bad weather caused diversions to Edwards Air Force Base. For more photos from the 41-G mission, turn to page 3.

Earth studies, IFMs mark 41-G

It was a mission almost exclusively geared toward studying the Earth, but one which also included a highly successful spacewalk and pointed to the importance of in-flight maintenance capabilities.

The flight saw the largest crew in the history of space travel, the first EVA by an American woman, the first flight by a Canadian, and a successful first flight for two JSC payloads — the Orbital Refueling System and the Large Format Camera.

The mission marked one of the most comprehensive flights yet in the effort to better understand the mechanisms of the Earth. A synthetic aperture radar called the Shuttle Imaging Radar (SIR-B) peered down through clouds and in some cases through land itself to provide pictures of the planet which can potentially provide extremely important data in a wide variety of disciplines, from urban planning to geology.

The Earth Radiation Budget Satellite, or ERBS, was left in orbit to study the Earth's radiation budget, its interaction with the Sun in other words. Earlier studies of this kind have dramatically affected our knowledge of the atmosphere.

The Large Format Camera took very high resolution photographs of the Earth, each on a negative 9 by 18 inches in size. The LFC, which was developed at JSC, will



EVA Mission Specialist Kathy Sullivan in a pensive moment.

add to the maps which are now derived from aerial photography for use in scientific and socio-economic studies. The principal investigator for LFC is Bernard Mollberg of JSC.

Adding to the observations was a representative of the human element, Payload Specialist Paul Scully-Power, whose observations of ocean dynamics are already causing ripples in the oceanographic community. "The ocean drives the atmosphere," Scully-Power said, "and if we are to understand the weather and the climate, we must first understand the oceans."

From day one to deorbit prep, the seven crewmembers worked

to provide the versatility needed to keep several of these experiments going, especially ERBS and SIR-B. On flight day one, the ERBS solar arrays would not deploy, probably due to the thermal effects of outer space. Deploy of the satellite itself was delayed for two orbits as the arrays were pointed toward the sun and heated up, and then finally released. On flight day two, when it became necessary to stow the SIR-B antenna in order to perform an Orbital Maneuvering System burn, two microswitches designed to provide open and close indications for the antenna would not mate, and this in turn prohibited the mechanical closure

Crippen named Deputy for Crew Operations

Robert L. Crippen, veteran Space Shuttle commander, has been named deputy director of Flight Crew Operations at NASA's Johnson Space Center in Houston.

The appointment was effective October 15. Crippen will serve as deputy to George W.S. Abbey. He will remain an active astronaut.

Crippen, a Navy Captain, was commander of Shuttle mission 41-G this month. He was pilot on STS-1, the first Space Shuttle flight, and commanded STS-7 and 41-C, the Solar Maximum satellite rescue mission. He joined NASA in September, 1969, after a three-year assignment with the Air Force's Manned Orbiting Laboratory program.

Born in Beaumont, Texas, Sept. 11, 1937, Crippen was graduated from the University of Texas in 1960 with a bachelor of science degree in aerospace engineering.

He received his commission through the Navy's Aviation Officer Program at Pensacola, Fla., and continued flight training in Florida and Texas. He served as a fighter pilot assigned to the carrier USS Independence from June 1962 to November 1964.

He later attended the Air Force Aerospace Research Pilot School at Edwards Air Force Base, Calif., where he remained as an instructor pilot until his selection in October 1966 to the MOL program.

His other work at NASA included participation in the Skylab Medical Experiments Altitude Test and serving as a member of the astronaut support crew for Skylab missions 2, 3, and 4 and the Apollo-Soyuz Test Project.

Crippen is married to the former Virginia E. Hill. They have three daughters.

of the antenna's outer portions. Ultimately, the Orbiter's robot arm was used to gently tap the antenna into a stowed position. "Everybody ought to have one of those arms in their tool box," Lead Flight Director John Cox said.

The various in-flight maintenance (IFM) procedures continued almost throughout the mission. When the Ku-band antenna developed a problem in its beta gimbal, it had to be locked in place through an IFM procedure which involved removing middeck lockers and getting to the antenna's power source. Later, in the first instance of internal and external IFM's in the same flight, Mission Specialists David Leestma and Kathy Sullivan manually positioned the antenna so two locking pins could be engaged and it could be accurately pointed and safely stowed.

But after more than a week of taking data and keeping instruments running, it was time to come home in the first high inclination deorbit landing to the Kennedy Space Center.

"As far as I'm concerned," said Commander Robert Crippen after his fourth Shuttle flight, "it was a fantastic mission. Having the people aboard to correct the problems, as well as the Mission Control Team, is what made it a success."

ShopTalk

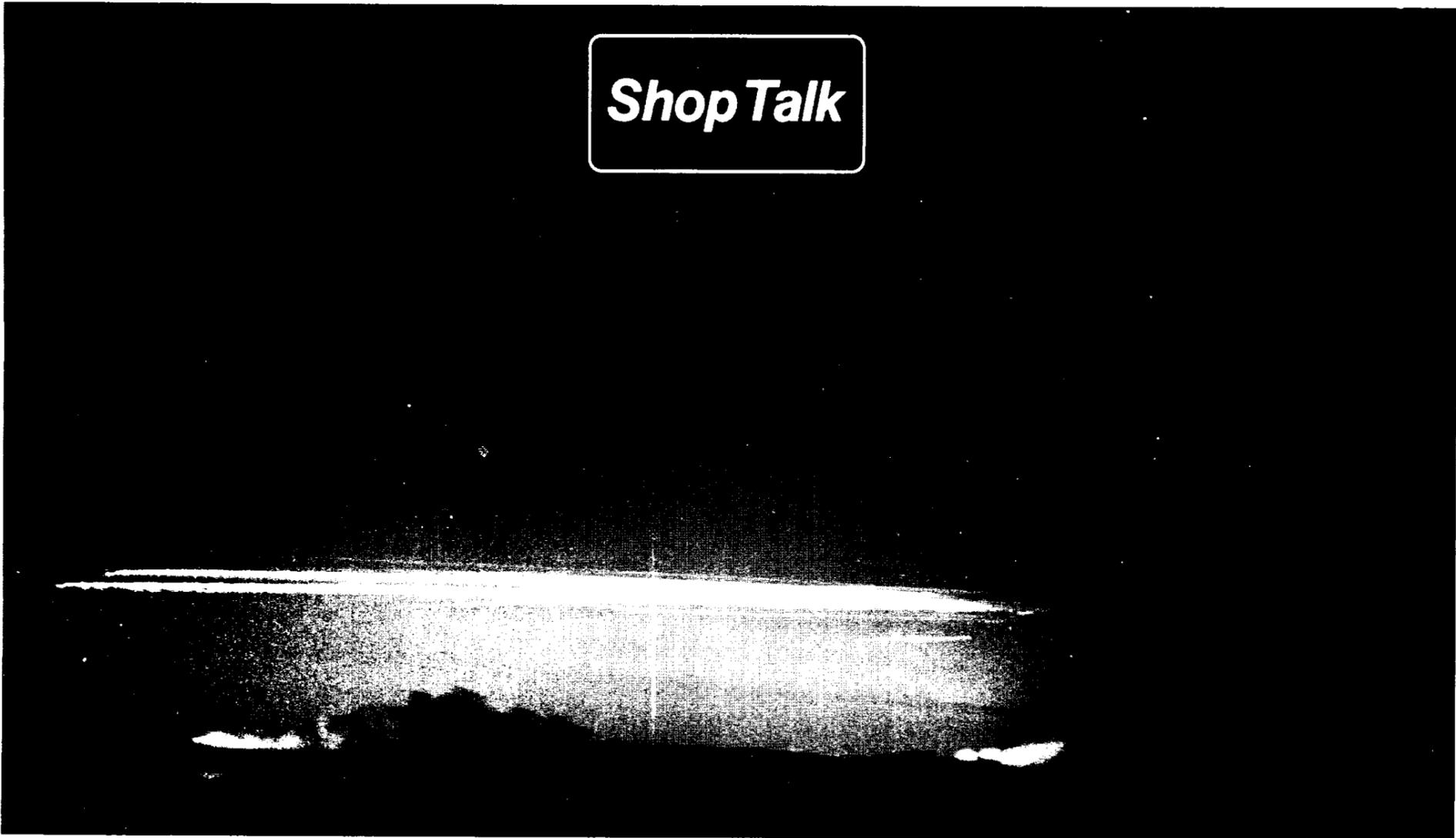


Photo courtesy Paul D. Maley. Copyright 1984.

The photo above has to be seen in color to be believed, but even in black and white it ranks as one of the most spectacular illustrations of a dynamic Shuttle launch. The time is April 1984. The occasion is the direct insertion launch of STS 41-C, and the location is Hawaii. Because of the direct insertion launch technique, it was possible to view the reentry of the external tank from the Hawaiian Islands. Amateur astronomer **Paul Maley** of Ford Aerospace did just that, and what makes the picture all the more interesting is the conjunction of events taking place in a single frame. The glow which lights the sky at the horizon is not dawn, but the fiery eruption of Mauna Loa beneath the cloud layer. At the upper right of the photo, as the external tank blazes across the sky, is the time lapse streak of the Shuttle *Challenger* as it makes its way into orbit.

Lillian Hudson, a longtime secretary with both the NACA and NASA, has joined a select group. Hudson, of the NSTS Program Office, has successfully earned the designation of Certified Professional Secretary (CPS). The CPS rating is earned by passing a six-part examination covering behavioral science in business, business law, economics and management, accounting, office administration and communication, and office technology. There were 5,617 candidates, with 1,138 passing. Hudson first worked for the NACA at the Langley Memorial Aeronautical Laboratory (now for Langley Research Center) in 1949. During the 50's and 60's, she was a full time housewife, then came back to work at JSC in 1969. As she progressed to her present position as secretary to **Dick Kohrs**, Deputy Manager of the Shuttle Program Office, she set

herself the goal of achieving the highest available professional rating. She made it, but it was far from easy. Hudson took courses at the University of Houston-Clear Lake, the College of the Mainland and San Jacinto Community College for several years in order to prepare herself for the CPS tests.



Members of the National Technical Association's Houston Chapter pose with the Outstanding Chapter Award.

The Houston Chapter of the National Technical Association was recently honored with an Outstanding Chapter Award during the NTA's 56th Annual National Conference recently. The NTA annually honors notable performance by a chapter as a group,

rather than as a group of individuals. The honor went to the JSC Houston chapter this year for exemplifying the NTA belief that "consistent, intellectually stimulating Chapter activity is fundamental to a progressive, viable NTA organization." The Houston Chap-

ter was founded in 1981. Pictured (l to r) are: **Debra Johnson**, **Diane Pegues**, Chapter President **Carrington Stewart**, **George Crittendon**, **Phyllis Stovall Tanksley**, **George Keys Jr.**, President-Elect **Willie Williams**, **Elols Haggerty**, **Andrea Mosie** and **Bobby Kyle**.

Everybody's favorite Public Affairs photographer, **Andrew "Pat" Patnesky**, reached a milestone in his career last week: 45 years of government service. Pat has more time in service than any other federal employee in the Houston area.

Skylab and Shuttle veteran **Dr. Owen K. Garriott** has been designated Program Scientist for the Space Station Program, reporting to Space Station Program Manager **Neil Hutchinson**. Garriott will serve as the key program official responsible for assuring identification, definition and integration of science requirements into Space Station design and development at Level B. He will continue to train as a crew member for Mission 51-H but will serve as Program Scientist on a non-interference basis until he has completed all mission responsibilities. Garriott joined the Astronaut Office in 1965, was Science Pilot for Skylab-3 and a Mission Specialist for STS-9/Spacelab.

JSC Director of Research and Engineering **Dr. Aaron Cohen** will receive the highest honor bestowed by the American Society of Mechanical Engineers, the ASME Medal, at its winter meeting Dec. 9 to 14 in New Orleans. The ASME Medal, established in 1920, is awarded for "eminently distinguished engineering achievement." Cohen is receiving the medal for his "outstanding achievements in directing design, development, production and tests of the Space Shuttle Orbiter." Cohen began his engineering career in 1952 with the RCA Corp., moved

in 1958 to General Dynamics Corp. and joined NASA's Apollo Spacecraft Program Office in 1962. He became manager for the Apollo Command and Service modules in 1970 and manager of the Space Shuttle Project Office in 1972.

Dr. Charles Elachi, who was at JSC last week in his role as Principal Investigator for the Shuttle Imaging Radar (SIR-B) flying on STS 41-G, has been named manager of the Earth and Space Sciences Division at the Jet Propulsion Laboratory.

STs 41-C Pilot **Dick Scobee** has been appointed Acting Deputy Manager of the Operations Integration Office within the STS Program Office.

The American Astronautical Society has selected Space Shuttle Program Manager **Dr. Glynn S. Lunney** to receive the 1983 Randolph Lovelace Award for his contributions to space science and technology. The award will be presented at the AAS Annual meeting October 23 in Palo Alto.

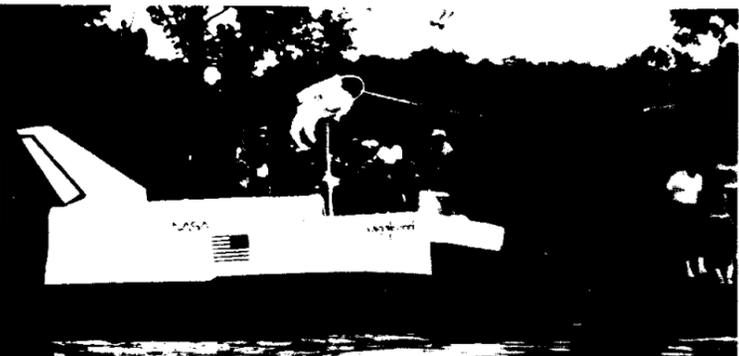
control world, the exact opposite of a thumbs up: all red systems lights burning across the top of his console.

One of the network reporters here to cover 41-G, so the story goes, was nervous about boning up on the new terms and countless acronyms one has to learn in order to understand a Shuttle mission. A few days into the flight, however, a call from a producer in Washington who was even more out of touch with things lessened some of the apprehension. "Who is this Sir B fellow everybody keeps talking about?" he wanted to know.

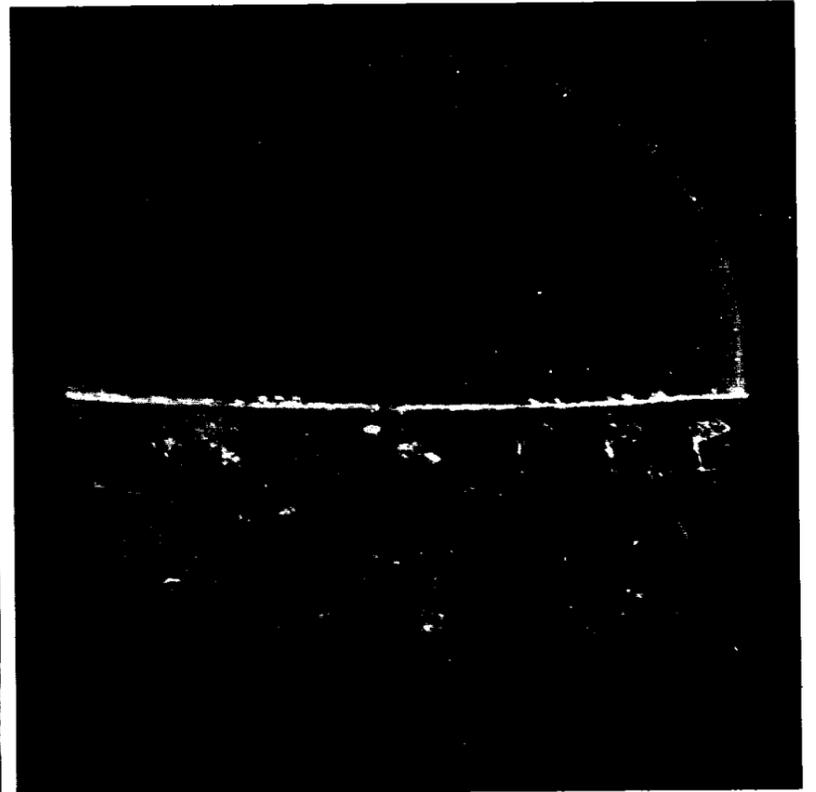
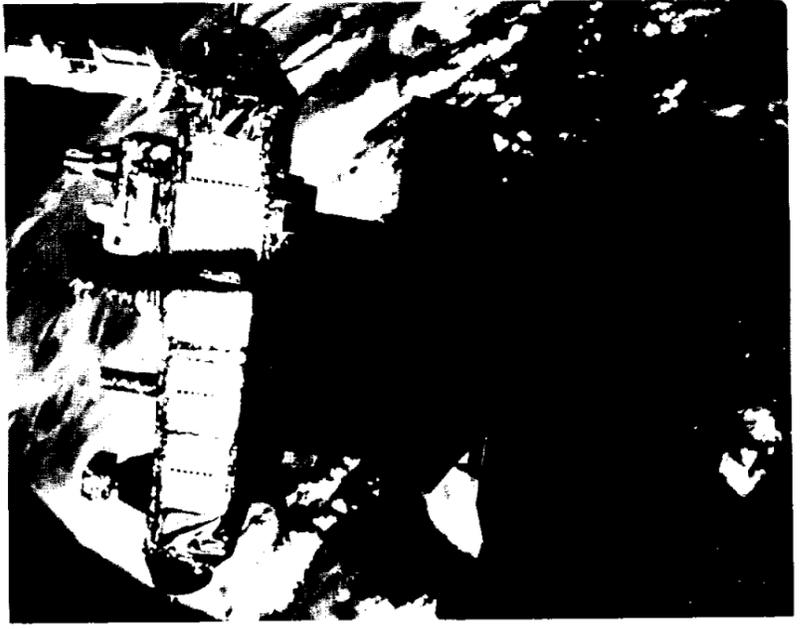
The 11th Worker Trainee Opportunity Program ended recently with an awards ceremony in Bldg. 1 attended by approximately 85 JSC employees. The eight WTO graduates were: **Harriett Alexander**, **Cheryl Bass**, **Valerie Bledsoe**, **Lori Green**, **Terri Johnson**, **Mable Shepard**, **Dottie Smith** and **Pamela Spigner**. Special recognition went to Bass and Bledsoe for perfect attendance and to Alexander for most improved typing. The Worker Trainee of the year award went to Lori Green, who was also given a Sustained Superior Performance Award by Deputy Director **Robert Goetz**. The four runners-up for the award were Alexander, Bledsoe, Shepard and Spigner. WTO Coordinator/instructor **Freda Lowe** was given a plaque from the students expressing their appreciation of her encouragement and many efforts on their behalf.



Any farmer will tell you Houston's heat is death to watermelons, but somehow the folks at Bldg. 33 have managed to bring in a healthy crop this year. Pictured with one of the melons is **Sandra Mahoney**.



As part of our continuing effort to bring you the finest examples of Space Shuttle rafts from across the country comes this entrant in a July 4 raft race in Rockford, Illinois. The ship was christened *Vagabond I*.



**MAXIMUM
CAPACITY
8 PERSONS
OR 2000 LBS**

A diverse set of photographs form the travel album for Mission 41-G, as illustrated in this sampling. Hurricane Josephine, which could have become a factor in the landing but never did, is seen in the oblique view at upper left. The Earth Radiation Budget Satellite, upper right, was late in being deployed, but by mission's end was a perfectly healthy spacecraft. Above right, a view of the Kennedy Space Center and adjoining Air Force launch facilities was captured by Kathy Sullivan through the middeck hatch window during the landing. Below, Sullivan, along with David Læstma, had an even better view of the world during a three-and-a-half hour EVA. She and Læstma are seen here at the Orbital Refueling System experiment. Nearby, at left, is another JSC payload, the Large Format Camera. Below, left, and at right are two images from the Shuttle Imaging Radar. The one below is a view of tumbled terrain in the high plateau of northern Peru, an area from which Francisco de Orellana embarked on the first successful trip by river to discover the Amazon in 1541. At right, Montreal is imaged through a cloud layer by the radar. At left, the largest-ever space crew exits the Orbiter Challenger after a picture perfect landing at the Kennedy Space Center. Leading the way is Commander Robert Crippen, followed by Pilot Jon McBride, Mission Specialists David Læstma, Sally Ride and Kathy Sullivan, and Payload Specialists Marc Garneau of Canada and Paul Scully-Power of the U.S. Navy.



Cookin' in the Cafeteria

Week of October 22 - 26, 1984

Monday: Beef & Barley Soup; Beef Chop Suey, Breaded Veal Cutlet w/Cream Gravy, Grilled Ham Steak, Wieners w/Baked Beans (Special); Buttered Rice, Brussels Sprouts, Whipped Potatoes. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Celery Soup; Fried Shrimp, Pork Chop w/Applesauce, Turkey a la King, Chinese Pepper Steak (Special); Au Gratin Potatoes, Breaded Squash, Buttered Spinach.

Wednesday: Seafood Gumbo; Fried Catfish w/Hush Puppies, Braised Beef Ribs, Mexican Dinner (Special); Spanish Rice, Ranch Beans, Buttered Peas.

Thursday: Green Split Pea Soup; Corned Beef w/Cabbage & New Potatoes, Chicken & Dumplings, Tamales w/Chili, Hamburger Steak w/Onion Gravy (Special); Navy Beans, Buttered Cabbage, Green Beans.

Friday: Seafood Gumbo; Deviled Crabs, Broiled Halibut, Liver & Onions, BBQ Link (Special); Buttered Corn, Green Beans, New Potatoes.

Rib w/Kraut, Chili & Macaroni (Special); Ranch Style Beans, English Peas, Mustard Greens. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Split Pea Soup; Meatballs & Spaghetti, Liver & Onions, Baked Ham w/Sauce, Corned Beef Hash (Special); Buttered Cabbage, Cream Style Corn, Whipped Potatoes.

Wednesday: Seafood Gumbo; Cheese Enchiladas, Roast Pork w/Dressing, BBQ Link (Special); Pinto Beans, Spanish Rice, Turnip Greens.

Thursday: Beef & Barley Soup; Roast Beef w/Dressing, Fried Perch, Chopped Sirloin, Chicken Fried Steak (Special); Whipped Potatoes, Peas & Carrots, Buttered Squash.

Friday: Seafood Gumbo; Fried Shrimp, Baked Fish, Beef Stroganoff, Fried Chicken (Special); Okra & Tomatoes, Buttered Broccoli, Carrots in Cream Sauce.

Sauce & Spaghetti (Special); French Beans, Buttered Squash, Buttered Beans. Standard Daily Items: Roast Beef, Baked Ham, Fried Chicken, Fried Fish, Chopped Sirloin. Selection of Salads, Sandwiches and Pies.

Tuesday: Navy Bean Soup; Beef Stew, Liver & Onions, Shrimp Creole, Smothered Steak w/Dressing (Special); Corn, Rice, Cabbage, Peas.

Wednesday: Seafood Gumbo; Roast Beef, Baked Perch, Chicken Pan Pie, Salmon Croquette (Special); Mustard Greens, Italian Green Beans, Sliced Beets.

Thursday: Beef & Barley Soup; Beef Tacos, Diced Ham w/Lima Beans, Stuffed Cabbage (Special); Ranch Style Beans, Brussels Sprouts, Cream Style Corn.

Friday: Seafood Gumbo; Fried Shrimp, Deviled Crabs, Ham Steak, Salisbury Steak (Special); Buttered Carrots, Green Beans, June Peas.

AT BUILDING #3

On Wednesday we feature The Reuben:

Corned Brisket, Swiss Cheese on a bed of Sauerkraut, Poupon Mustard on Rye and 1/4 Pickle. Delicious

Monday & Thursday check out our French Dip Sandwich



A chip off the old block, U.S. Navy Ensign Rich McBride stands by as his father "Big Jon" McBride, fills out his pre-flight paperwork prior to a T-38 flight from Ellington Field recently. McBride senior was flying in space last week as Pilot for the 41-G mission.

Week of October 29 - November 2, 1984

Monday: French Onion Soup; BBQ Sliced Beef, Parmesan Steak, Spare

Week of November 5 - 9, 1984

Monday: Cream of Potato Soup; Franks & Sauerkraut, Stuffed Pork Chop, Potato Baked Chicken, Meat

Roundup Swap Shop

Ads must be under 20 words total per person, double spaced, and typed or printed. Deadline for submitting or cancelling ads is 5 p.m. the first Wednesday after publication. Send ads to AP 3 Roundup, or deliver them to the Newsroom, Building 2 annex. No phone-in ads will be taken. Swap Shop is open to JSC federal and on-site contractor employees for non-commercial personal ads.

Property & Rentals

For rent: Friendswood 3-2-1, lawn, trees, fenced, 1/4 miles walk to local schools, 800 Lochmoor, \$485/mo. plus deposit. Call 482-6811 evenings.

For sale/lease-purchase: Townhome available Nov. 1, 3-2-1/2-2, 1,700 sq. ft., no pets, qualifies for bond money at 11.5%, \$650/\$75,000. Call 333-2636 after 5 p.m.

For sale/lease/lease-purchase: 2-2-1/2-2 townhome, immediate occupancy, no pets, 1,570 sq. ft., qualifies for first bond money at 11.5%, \$525/\$72,000. Call 333-2636 after 5 p.m.

For lease: Wood Meadow 3-2-2, FPL, drapes, refrigerator, like new, near Ellington, \$510/mo. Call 480-6325 after 5 p.m.

For sale: Contemporary 3-2-1/2-2 in Pipers Meadow, upgraded carpet/vinyl, energy efficient, open, sunny floor-plan, quiet street, \$10,000 equity. Call Dennis, x3486 or 480-5076.

For sale: Countryside 3-2-2, FPL, ceiling fans, garage door opener, nice landscaping, 2 years old, \$78,000. Call Burke, x2758 or 332-9093.

For lease: Mobile home, 14' x 70', 3-2. Call 332-9202.

For lease: Mobile home space, 37' x 125', 4421 4th St., Bacliff, \$100/mo. Call 488-1758.

For sale: Wooded waterview lot at Point Lookout West, on Lake Livingston, 75' x 137', below market at \$3,500. Call 946-7587.

For sale: Retirement home in Dickinson, 3-2-2, totally updated, averages \$153/mo. utilities, \$79,500. Call 534-3617 evenings.

For sale: Med Center 1-1 condo, 750 sq. ft., FPL, appliances, patio, pools, carport, assume, by owner, \$47,500. Call 797-1648.

For rent/sale: University Trace 1-1 condo, upstairs, covered parking, burglar alarm, W/D connection, \$350/mo. plus \$200 deposit or \$35,000. References for rentals. Call 675-2211 or 484-4009 evenings.

For sale: 3/4 acre waterfront lot with access to bass fishing in Brazoria County. Call Don, 280-6307 before 5 p.m.

For rent: One room in four BR

house, Nassau Bay, pool, one block from lake or park. Call Jay Trimble, x3695.

For lease: CLC/Baywind, 2-1-1/2-2, W/D, furnished, \$470/mo. plus util. plus deposit, 6 mos. minimum. Call 333-3992.

For sale/lease: Forest Bend 4-2-2, on the park, new AC, fans, extra insulation, FPL, fenced, \$62,900 or \$610/mo. Call 996-0981.

For sale: Alvin 4 BR, spacious, den, FPL, formal dining, wall bookcases, fan, large lot, good neighborhood, assume 9%. Call Kaye, x5222 or 585-3570.

For sale/lease: Fairmont West, 3-2-2 brick colonial, assumable, \$450/mo. plus first and last and deposit. Call Bill Muhly, 471-5185.

For lease: Sagemont 4-2-2, fenced, drapes, new carpet, no indoor pets, 2 children max., \$575/mo. plus deposit. Call 331-1136.

For lease: Townhouse near NASA 1, 2-2-1/2-1+1, FPL, garage opener, pool, fenced patio, balcony. Call 452-3361.

For lease: Dickinson furnished 3 BR, FPL, DW, microwave, ceiling fans, on 1 acre, \$900 plus deposit. Call Nancy, x3257 or 538-3306 evenings.

For lease: 10 acres, Alvin area, good for horses, cattle, fenced, on paved road. Call Damewood, 482-5572.

For rent: Galveston By-the-Sea condo, 2 BR, furnished, for rent by day (2 minimum), week or month. Call Clements, 474-2622.

For rent: Galveston Gulf-front condo, treat yourself to a relaxing 2-day to 1-month vacation in this completely furnished condo, low fall rates. Call Nussman, 488-7762.

For sale/lease: CLC 1 BR condo, 2 weeks free rent, FPL, kitchen appliances, W/D connections, pool, exercise room, clean/fresh paint. Call Jim Briley, 280-3679 or 488-7901 after 5 p.m. and weekends.

For sale: Heritage Park 3-2-2, fenced, enclosed utility room, \$51,500, assume \$27,200 FHA 8.5% fixed, \$10,000 down. Call 481-0289.

For lease: Middlebrook 3-2-2, wet bar, fully carpeted, fenced, \$550/mo. plus deposit. Call Jim, x2375 or 488-0658 after 5 p.m.

For rent: 1 BR furnished condo in Beaver Creek, Colorado, sleeps 6, Dec. 1st thru Dec. 8th, \$500. Call Angela, 944-5786 after 5 p.m.

For lease: University Green patio home, 2-2-2, study, FPL, landscaped, large deck, \$750/mo. Call John, x4164 or 488-6102.

For lease: Egret Bay condo, 2-2-2, W/D, FPL, storage, covered parking, \$430/mo. Call John, x4164 or 488-6102.

Cars & Trucks

1977 Malibu Classic V-8, AM/FM/8-track/CB, good condition, 69K miles, \$2,000. Call 480-7200 after 4:30 p.m.

1973 Olds Delta 88 Royale, one owner, very good condition inside and out, \$1,995. Call McNeely, x6347 or 482-5837.

1973 Ford Mustang, rebuilt engine and transmission, AM/FM/tape, mag wheels, \$600 OBO. Call McNeely, x6347 or 482-5837.

1984 GMC Custom van, 9K miles, fully loaded, \$16,500. Call 946-4815 after 4:30 p.m.

1979 Olds Cutlass Supreme, very good condition, 260 V-8, AC, \$3,500. Call 485-1931 after 6 p.m.

1981 Pontiac T1000, auto, AC, 35K miles, excellent condition, good mileage, 50K transfer warranty, \$2,950. Call Phil, x2876 or 488-4453.

1975 GMC Coachman 20' self-contained mini motor-home, 42K miles, sleeps 6. Call 482-4874 after 5:30 p.m.

1978 Chevy Monza, red, V-6, PS, PB, AC, looks and runs great, one owner, 56K miles. Call Bobko, x2411 or 334-1437.

1978 F150 Ford truck, new interior, 6 cyl., good work truck, \$3,200. Call Kenneth, 534-3628.

1978 Chevy window van, good condition, \$3,400. Call Phil, x5341 or 538-1369.

1974 Plymouth Satellite, PS, PB, radio, good tires, runs well and well maintained, \$1,200. Call Pat, x4211.

1976 Toyota Corolla, 2-dr., auto, good engine, good tires, dents, rust, cracked windshield, no reverse, \$500. Call Lafferty, x4211.

1979 Mercury Capri, 4-cyl., auto, AC, stereo, hatchback, 64K miles, \$3,000 firm. Call Vickie, 280-7915 or 482-6899 after 5 p.m.

1979 VW Rabbit diesel, 4 spd., AC, AM/FM stereo, new tires, sun roof, new battery, excellent condition, \$2,300. Call Bob, x4323 or 482-5984.

1979 Datsun 210 wagon, AC, manual, new tires, AM/FM, \$2,000. Call Nancy, x3257 or 538-3306 evenings.

1981 Datsun 310-GX, 34K miles, about 32 MPG, excellent condition, \$4,300. Call Marie, x3905 or 338-2336.

1976 Mercury Comet, new tires, AC, auto, very clean, good mileage, \$2,200. Call McNeely, x6347 or 482-5837.

1973 Olds Delta 88 Royale, one owner, very clean, well maintained, many extras, \$1,795. Call McNeely, x6347 or 482-5837.

1950 Chevy 4-door, 97,000 miles, 3rd owner, refurbished and in excel-

lent driving condition, need to sell. Call Smith, x4571 or 471-2419.

1977 Mercury Cougar XR-7, low miles, one owner, all power, AC, excellent condition, \$2,150. Call 280-0454.

1963 Falcon Ranchero, 6-cyl., standard, white/red interior, all original, very good condition, \$2,500. Call Beatty, x2673 or 482-7938 after 4:30 p.m.

1971 VW Superbeetle, engine needs work, good body, new tires, \$500 OBO. Call Sara, x3048.

1981 Olds Cutlass Supreme, loaded, \$4,000. Call Rick, x5341 or 480-8223.

1976 Nova, new tires, good mech. shape, needs body work, make offer. Call Mark, 280-7936 or 280-0359 after 5 p.m.

1969 Mercury, runs, good tires, new alternator, new battery, new starter, \$350. Call Art, x4224 or x4907.

1950 Chevy pickup, tuck and roll set, mags, 8-track, silver, \$1,700 OBO. Call 332-4206 after 5 p.m.

Boats & Planes

15' Skeeter bass boat, 50 HP Johnson, trolling motor, depth sounder, etc., \$2,000. Call Don, 280-6307 before 5 p.m.

Kells 23' sailboat, new 7.5 HP Evinrude, excellent condition, \$5,200. Call 486-0855 after 6 p.m.

1974 Cobia 15 ft. walk through, Mercury 65 HP, low hours, Dilly trailer. Call Don Brown, x3781 or 488-0754.

Pearson 26', 1980, 5 sails w/spinnaker, 10 HP electronic start, Bimini, many accessories, reduced from \$23.5K to \$17,900. Call John, 486-9500 or 556-6312.

1983 Citation I/O, 120 HP Mercury, P/T, 19', trailer included, like new, must sell, \$8,000 OBO. Call Phillip or Robert, 538-1612.

Boston Whaler, 13', 40 HP Evinrude, excellent, \$3,200. Call B. Sprague, x3833 or 946-0224.

Brand new Hummingbird Super Sixty depth sounder, \$110. Call Don, 280-6307 before 5 p.m.

One fifth share in Grumman Tiger, based at Clover Field, with other JSC employees. Call Dave Huntsman, x3035 or 334-7162.

Full IFR Piper Warrior, PA-28-161, for rent, \$38/hr. wet; Cessna 150, \$27/hr. wet, no dues or monthly fees. Call 946-1750 after 2 p.m. for information and scheduling

18-ft. boat, 10 Mercury 150 HP engine, galv. trailer, \$2,900. Call Joan, x3057 or 486-1058 after 5 p.m.

For rent: Piper Lance aircraft, 6-place club seating, \$85/hr. wet. Call Damewood, 482-5572.

White canvas canoe, 17 foot, car top carrier, paddle included, \$100. Call 488-2269 after 5 p.m.

14-foot Luger sailboat, two sail sets, compass, galvanized trailer, extras, \$1,650. Call 480-1510.

KR-2 experimental aircraft, 40% built, complete kit, Revmaster engine, prop, motor mount, engine and flight instruments. Call Cleon, x4372 or 996-1973 after 6 p.m.

Found

Found - one ladies watch in Bldg. 36 parking lot, identify to claim. Call Diane or Fred, x5031.

Wanted

Seeking used full-size bed frame. Call Brian, x5111 or 480-5194.

NEED babysitter for 2-year-old boy, your home or mine, 8 a.m. to 5 p.m. weekdays. Call Beth, x2688 or 488-0356 after 5 p.m.

Want a female roommate for a 2 BR apartment in Clear Lake? So do I. Call Bonnie, x4048 or 485-2334.

Carpool from Missouri City/Quail Valley area to NASA, 8 a.m. to 4:45 p.m. Call Roger, 438-2798.

Single non-smokers wishing to join a new social club call Steve, 485-8930.

Miscellaneous

Aluminum camper top for 8-foot pickup, Winnebago brand, \$200. Call 482-7073.

Sears 50 auto battery, used once, \$40; weight bench with bar and some weights, \$25. Call Walt, x2951 or 334-4407.

Cortley guitar, with hard case, both in excellent condition, \$235. Call Walt, x2951 or 334-4407.

Two bundles of cedar ridge shingles, \$20. Call Jack, x5153.

Kenmore sewing machine with cabinet, \$45; recliner, \$35; sleeping bags, \$15 ea.; 6 foot Xmas tree, \$30; barbecue, \$20; electric typewriter, \$85. Call Kaye, x5222 or 585-3570.

Sporty rims for 1976 Nova with or without tires. Call Saver, x4086 or 554-6290.

Clear Lake High cap and gown, \$5; two N-gauge track layouts; instant set-up 7-foot dome tent, \$50; five gal. military style gas can with 15" flex spout, \$10. Call John, x4393 or 488-0559.

Rent a mini-motor home, fully self-contained, onboard power plant, roof air, tub and shower, daily or weekly rates. Call Dave, x5111 or 480-0202 after 5 p.m.

Men's ski boots, 2 pair, size 10 1/2, San Marco rear entry, \$25, or Nordica for \$20. Call 474-3489 after 5:30 p.m.

Charter Arms .38 pistol, snubnose, like new, \$125. Call 337-3017.

Memberships now being accepted for the "Rock" Swanson Fan Club. For more information, call Jerry, x4794.

Open front lighted curio cabinets, three available. Call Tom, 480-2776.

Pet Porter dog carrier, size 3 for medium dogs, \$25. Call 480-4063 after 5 p.m.

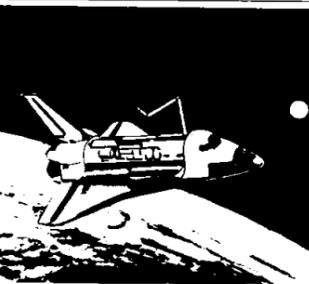
Sears exercise bike, originally \$100, sell for \$40. Call LeAnne, x4264 or x3057.

Numerous unframed Windberg prints, signed and numbered. Call 488-2269 after 5 p.m.

White spoke rims, 5-hole, fit '78 Bronco, size 8" x 15", excellent condition, four for \$40. Call 488-3380 after 5 p.m.

NASA
Lyndon B. Johnson Space Center

Space News Roundup



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